MEMORIAL

OF THE

CHAMBER OF COMMERCE OF THE CITY OF NEW YORK,

PRAYING

For the removal of obstructions to navigation at Hell Gate, and in the harbor of New York.

December 27, 1849.
Referred to the Committee on Commerce.
December 31, 1849.
Ordered to be printed.

To the honorable the Senate and House of Representatives of the United States in Congress assembled:

The memorial of the Chamber of Commerce of New York

Respectfully represents:

That the natural advantages and favorable position of New York necessarily constitute this port the great mart of commerce, as well as the common centre for the trade of the Union. The vast increase in this trade, and the constant augmentation in the number of vessels, both great and small, that require the use of the waters of this harbor, would seem to present a strong claim to the favorable consideration of Congress for the requisite appropriation to remove those obstructions that interfere with the convenience and security of that extended navigation, in which all classes and all interests are directly or indirectly concerned.

The outlet to the ocean by way of the East river and the passage of Hurl Gate, is probably required and used by as great a number of vessels of all descriptions—though mostly, at present, of moderate size—as that of almost any other in the world; yet do the dangers of that passage remain a standing reproach to the enterprise and improvement of the age. A moderate expenditure would remove the difficulty, by blowing up the rocks that obstruct the channel, and thus make that hitherto dangerous strait not only safe for the myriads of schooners, sloops, and steamers that are now daily compelled, when waiting for the tide, to encounter the delay and risk occasioned by the intricacy of the channel, but that entrance might be made entirely secure for merchant ships of any draught, as well as for ships of war of the largest class.

The opening of that channel would also afford to our public marine the important advantage to be derived from the cove, or harbor, at Throg's

Point, capable of containing in safety the largest fleet in a position to be enabled to take advantage of an outlet to the ocean either by way of Sandy Hook or of Long Island sound.

The rocks in our harbor that require removal consist of those at or near Hurl Gate, and those off the battery, with "Diamond reef" and "Prince's reef;" most, if not all of which, as the Chamber is advised, have been surveyed by the coast service, whose scientific labors have been productive of so much benefit to the commercial interests of the country.

In order to show more plainly the dangers to which our navigation is exposed by these obstructions, the Chamber respectfully craves the reference of your honorable body to the annexed chart, on which is laid down the exact position of the three reefs alluded to, by which it will be seen that the distance in a straight line from Diamond to Prince's reef is only 1,600 feet, and the passage between them is the ordinary channel through which all ships must pass when going in or out of the East river, the principal basin of our harbor.

The Chamber would also beg leave to represent, that the services of a steam cutter, of approved model and great power and speed, is often required, particularly during the winter, to give aid and succor to vessels in distress off our coast, and occasionally to render them assistance when ashore near the entrance of our harbor.

An appropriation is accordingly earnestly and respectfully solicited, sufficient for the accomplishment of these objects, so absolutely necessary for the security of our marine, and so essential to the prosecution of our increasing commerce, the success of which is indissolubly connected with the general prosperity of the country.

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CHAMBER OF COMMERCE,
New York, December 4, 1849.

At a regular meeting of the Chamber of Commerce, held this day, the foregoing memorial—which was submitted by a select committee previously charged with the consideration of the subjects therein embraced—was unanimously adopted as the sense of this Chamber, and ordered to be transmitted to both houses of Congress.

Extract from the minutes.

M. H. GRINNELL, *President.*

Attest:
M. MAURY, *Secretary.*

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HURL GATE CHANNEL.

Report made by Lieutenant Commanding C. H. Davis, of survey of Hurl Gate channel, and communicated to the Chamber of Commerce of the city of New York by Professor A. D. Bache, Superintendent of the Coast Survey, and by that body forwarded to Congress, and printed by order of the House of Representatives, March 14, 1848.

OFFICE OF THE COAST SURVEY,
Washington, February 15, 1848.

DEAR SIR: In compliance with your instructions, I have made an examination of the Hurl Gate passage, for the purpose of verifying—as far as the season and the short time would allow—the records of this office, and of inquiring into the best means of improving this important channel.

That it is very desirable to make such improvements as will lessen or altogether remove the hazard attending the ordinary navigation of Hurl Gate, will not be disputed, when it is remembered that a very large proportion of the vast fleet of coasting vessels that go to New York and up the North river pass by this route, and that it is the hourly resort of steamboats crowded with passengers, and carrying the most precious freights.

Of the sailing vessels that enter the Hurl Gate passage, it is estimated that one in fifty sustains more or less injury, by being forced by the violence of the currents on the rocks or shoals, and the accident to the Oregon, which nearly proved fatal to her passengers, shows that even steamboats, with a motive power that keeps them under perfect control, and guided by the most experienced pilots, are not secure from peril.

Such an improvement in the channels of Hurl Gate as would render them navigable to vessels of all classes under common circumstances, would supply to the commerce of New York a new outlet to the sea; one in a different direction from the harbor channels, and available when those were temporarily closed by adverse winds or other causes, and would, therefore, be a permanent and valuable resource both for those vessels outward bound and for those returning home.

But a still more serious consideration is that of the increased facilities for naval defence which this improvement would afford. In the event of a rupture with a naval power, there can be no doubt that the attempt in the last war to ravage the shores of Long Island sound, and to prey upon its domestic commerce, will be repeated. The means of resisting or preventing such hostilities must be drawn chiefly from New York; and if the Hurl Gate passage be made secure, not only our largest men-of-war, but our steamboats of a superior class, which on such occasions would be armed for the purpose of defence, would be at once enabled to hasten to the scene of danger.

The steamboats are now constantly passing through Hurl Gate; but the difficulties of the passage would to them be seriously increased if they were pressed down by a naval armament and equipped for action.

During the war with Great Britain our frigates were blockaded in the harbor of New York, which could not have been the case if the Hurl Gate passage had been open. Commodore Decatur ventured to carry his squadron through, but with such risk that the attempt with a frigate was

only made once afterwards, notwithstanding the constantly recurring necessity.

The removal, therefore, of the obstructions to the safe navigation of Hurl Gate, is recommended by a regard to the future naval defences of the country.

The dangers in this channel arise from the great strength of the current, and the number and positions of the rocks and reefs. The strength of the current is such, that sailing vessels can only stem its force or escape from it by a commanding breeze; but as the main course of the flood tide keeps the middle of the eastern channel, it is most secure for vessels which are coming from the westward with the tide to place themselves in the centre of the stream, and follow its direction. They are thus carried through in safety. This plan, however, is inadmissible for any but small vessels, on account of two rocks, the "Pot," and the "Frying-pan," which lie in or very near the mid-channel, are in the way both going to the eastward and westward, and have but little water on them at low tide. There is also a reef, called "Way's reef," which lies in the course followed by the steamboats principally, when coming from the eastward against a strong flood. It is their custom to keep close around Pot cove, and run up under Hallet's point; by so doing they avoid the strength of the flood. In this part they find an eddy current in their favor.

But in the ebb, the greatest danger arises from the divergence of the current at a point marked (A) on the sketch, where the ebb tide branches off into three directions, to take the course of the three channels—the main south channel, the middle channel, and the eastern channel.

The safe navigation depends here upon deciding sufficiently soon at the point of separation which channel shall be taken; and the neglect to do this, or a loss of control over the vessel for any reason, frequently results in being carried on the "Gridiron."

When a vessel that has attempted the eastern channel finds herself carried towards the "Gridiron," her only chance for safety is to run for the middle channel, which is narrow, and made precarious by the middle reef, the outer rock of which is the "Negro Head."

The "Gridiron" is—owing to the strong set of tide on it—the most dangerous reef in the passage.

The reef known as the "Bread-and-Cheese," on the eastern end of Blackwell's island, is also very dangerous. Vessels are liable to go on it on the flood when it is covered, by getting into the eddy near it, with a light wind. The chief danger is on the ebb, and from the same cause as that which makes the "Gridiron" dangerous; that is, the strong set of tide in that direction.

These, then, are the principal dangers; and I recommend that the following measures be adopted for their removal and correction:

1st. That "Pot rock," the "Frying-pan," and "Way's reef," be blasted and scattered. The two former are single rocks, of a pointed shape; the latter is long, and has the character of a ledge. (The rocks having deep water around them could be easily removed.) And also, that the middle reef be blasted so as to make a clean channel of sufficient depth for common vessels and steamboats between "Flood" and "Little Mill" rocks.

2d. That piers be built upon the "Hog's Back," "Gridiron," and the "Bread-and-Cheese," of stone, sufficiently high to show above the sur-

face of the water at high tide, at least four feet. That these piers be faced with wood, and be provided with the spring fenders used at the steamboat ferries, and that their forms should correspond to the natural shape of the reef; by which means, vessels coming in contact with them would be guided into the channel-ways.

To blow up and scatter the large masses of rock composing the "Gridiron," without destroying the middle channel, which has only twenty-two feet of water in it at that point, would hardly be possible. But if the "Gridiron" were removed, the rock out of water (that is, "Flood rock") would be equally or nearly as dangerous. The tide would set on that with the same violence and certainty.

The same objections will apply to an attempt to remove the "Bread-and-Cheese." And in regard to this and "Hog's Back," the shoal water around them would make it necessary to repeat the blasting an indefinite number of times.

Something has been said of removing and scattering all the rocks in Hurl Gate—those out of water as well as those under water; but it appears to me that this proposition is best answered by asking where the materials are to go? Unless carried off, they must obstruct the neighboring channels, and the process of blasting would never be completed.

By the piers which I propose, the directions of the currents would be made more certain and confined, and when they pass over deep water they may be safely trusted. Tides would rebound from the piers, and in most instances prevent vessels from striking against them. And again, if vessels were carried on, they would be prevented from receiving any injury by the spring fenders, and would have an opportunity, by throwing a line around a spile, either to swing the vessel or lie by, as might be most convenient.

There are several single rocks, less important, and near the shore, which might easily be removed; one, for instance, off the Negro point, and one near the south ferry.

Until this passage is improved, by the removal of the present serious impediments to its safe navigation, I recommend that the following buoys be placed:

One on "Way's reef." I have already mentioned that steamboats coming from the eastward on the flood, pass inside of "Way's reef," where an eddy tide is found setting towards Hallet's point. This eddy, produced by the whirls of the "Pot," rebounds from the shore and sets on to "Way's reef," where it is met by one of the *direct* whirls of the "Pot." By this conflict of tides, two straight currents are produced that run side by side over the reef; the outer one southerly, or flood, the inner one northerly, or counter to the direction of the main body of the tide.

One on "Hog's Back." Vessels intending to take the main ship channel on the ebb (which is the best way) are in danger, if they give Hog's Back too wide a berth on going on "Mill reef," of being forced to run the middle channel; which is only safe to those who are very well acquainted with the ground. A buoy would enable a vessel to keep near "Hog's Back," and avoid this danger.

One on "Rylander's reef." This reef is dangerously situated, on account of the deep water around it, and is not well known.

I will also recommend a small light on "Great Mill Rock," which will enable vessels to pass through Hurl Gate at night. It would be the proper

guide for hauling round Negro point coming from the eastward, and for hauling to the southward coming from the westward, after passing Hallet's point.

The character of the rocks in Hurl Gate is such that they could be easily removed by blasting. The strata are chiefly in a horizontal direction, and are open. This opinion is formed from the appearance of the rocks above water.

I have the honor, &c., &c.,

CHARLES HENRY DAVIS,
Lieutenant commanding U. S. Navy,
Assistant Coast Survey.

A. D. BACHE, L. L. D.,
Supt. U. S. Coast Survey, Washington.

Report of Lieutenant Commanding David D. Porter, of the survey of Hurl Gate, made October 30, 1848, *and communicated by Professor A. D. Bache, Superintendent of the Coast Survey, to Eben Meriam, for the use of the Chamber of Commerce of the City of New York.*

UNITED STATES SCHOONER PETREL,
New York, October 30, 1848.

SIR: I have been called upon several times lately, by persons from New York, asking for information respecting the rocks and other dangers about Hell Gate, which information I declined giving, and informed them that the proper method of obtaining it was through the Superintendent of the Coast Survey. The Chamber of Commerce meets in a short time in this city, for the purpose of taking measures relative to clearing away the obstructions of Hell Gate, and at the request of the gentlemen who seem interested in the matter, I lay before you the information I have collected while sounding out the place.

It was my intention to have made you a full report on the subject, but a copy of the report of Lieutenant Charles H. Davis, on Hell Gate, was sent to me to-day, and I find it so full and correct in all its details, that I could say but little more without incurring the charge of plagiarism; in fact, the opinions expressed by Lieutenant Davis coincide with those I had formed previous to reading his report; and it only remains for me to point out the dangers I have noticed while surveying here, and which have escaped his attention. I have also had a better opportunity of measuring the size and shape of the rocks than he had, and herewith give a description of them.

The first in order, and the principal obstruction in Hell Gate, is "Pot rock," on which I found eight feet of water at the lowest tides. The average depth, however, is about ten feet. The lowest depth is only to be found in one place about six feet square; it deepens to fourteen feet on the east and west sides, and suddenly to four fathoms on the north and south. The strata of the rock are vertical, running north and south, which is the case with every rock in the Gate; and this would render the task of blowing them up much easier than if horizontal. At half tides, the depth of water does not increase on "Pot rock," as there is at least a fall of four feet, and a vessel drawing over eight feet must strike

upon it. A full-rigged brig struck it three days since, and went down with a valuable cargo on board. This obstruction once removed, Hell Gate would be less dangerous by one half, and the eddies, which are now the cause of half the difficulties, would in a measure disappear.

"Way's reef," to the southward of "Pot rock," is divided into two parts—one a conical rock, with five feet on it, and the other a flat bed of rocks, about ten feet square, with fourteen feet of water, and twenty yards to the north of the former. The five feet rock lies on the edge of the eddy, and I found, by experiment, that a buoy sunk eight feet deep, and let go in mid-channel above the north entrance, drifted directly over "Way's reef." This was with a light breeze from the northwest. I kept a buoy on this place while sounding. It watched generally, and almost always with the tide flood. Since I removed it, one vessel has struck on the reef. I would recommend that a buoy, in the shape of a boat, be placed upon it until it is removed.

There is a dangerous rock, called "Bald-headed Billy," fifteen yards from Hatter's dock, which is dry at low water, and "brings up" a number of vessels at high water. Three vessels struck upon this rock while I was at Hell Gate; one we got off with some difficulty—another lost bowsprit, anchors, and chains. It is a single rock, six feet square, and could be floated into deep water without much difficulty. Opposite Gibbs's point, and within fifty yards of Blackwell's island, is a large rock, which I have called "Blackwell's rock." The current sets directly upon it with the flood tide, and it is a most dangerous obstruction. It is six feet out of water at low tide, and could be removed at small expense.

The "Frying-pan" rock is a ledge fifteen feet long, and only six inches wide at the top. It runs north and south, and is a part of the chain of rocks which run from "Hog's Back" to Hallet's point. A buoy let go in mid-channel, at half-ebb, drifted directly over the "Frying-pan" with a light northwest wind. It is at this point where the currents divide, taking the directions of the main and middle channels. This rock removed, vessels would always drift through the main ship channel. The difficulties of removing it would be much greater than any other rock in the Gate, as it is so difficult to hit upon it.

There is a small rock, though a very dangerous one, to the southward of Woolsey's bath-house. It extends about fifty yards out into the channel, and is connected with the shore line at low water. There is three feet of water on it at high tides. On the first of the flood, a buoy let go opposite Gibbs's point, (the southern approach to Hell Gate,) drifted around Hallet's point, between "Pot rock" and "Way's reef," along the edge of the eddies, and over the above mentioned rock into "Pot cove." This happens to a great many vessels, and but for this dangerous obstruction, they would drift into a safe harbor. This rock could be removed in one or two low tides.

I find that "Rylander's reef" extends much further into the channel than is shown by former charts. I found six feet of water on the outer point of it. Nothing can be done with this large bed of rocks but to erect a stone beacon on the shoalest part. This will save many a vessel.

Hallet's point I should recommend, by all means, to be removed. It is the most accessible obstruction in Hell Gate, and could be worked at four or five hours each day. At flood tide it causes the eddies in "Pot cove,"

and on the ebb tide the eddies in East channel. Vessels standing too close to the point on ebb tide, are apt to be caught in these eddies and thrown on shore opposite Steven's fort; and vessels passing at high water, when the point is entirely hid, are apt to strike upon it. It extends forty yards into the channel, and has eighteen feet of water at its uttermost point.

If any attempt is made to carry out the recommendations that have been frequently offered, relative to clearing away rocks in Hell Gate, I would suggest a close examination of the shore line at low water. Many rocks will be found to exist of a dangerous character, and they have at different times done much damage to vessels of lighter draught. One point I would recommend for removal is "Scaly rock," and close to it "Shell rock"—both dangerous at high water, from the fact of their extending so far into the channel.

Two vessels have gone on shore, while I have been at work here, on a point called "Ravensworth reef," to the southward of Gibbs's point. Both vessels bilged, and were nearly ruined. I would recommend a buoy to be placed upon it, as it will be difficult to remove.

The suggestions made by Lieutenant Davis, about building docks above some of the reefs, I approve of in their fullest extent. I do not think, however, it will be found easy to make a channel by blasting through the middle reef, and would suggest that it be entirely filled in with docks and spring fenders.

"Bread-and-Cheese," as it now stands, is one of the most troublesome points to avoid in Hell Gate. Heretofore it has had nothing on it to indicate the danger at high water. At low water it shows its entire shape and size. I placed a large pole on the outer point. It is so firmly fixed that it will remain there until cut away by the ice. I have been assured the pole has, no doubt, prevented many vessels from running on the point; and I would recommend strongly, that an iron spindle be placed firmly upon the same spot, until such measures are taken to dock it in. Moreover, I think it advisable to close up a small eight feet channel between "Bread-and-Cheese" and Blackwell's point, as it is the cause of the most dangerous eddies. After this is done, a beacon, to be lighted up at night, should be placed upon the outer point, and would, in connexion with a light on "Mill rock," be of great advantage to commerce. At present there is not a single light from New York to Throg's point, where there should be at least six.

In a place where the interests of so many are at stake, the want of attention to the navigation of Hell Gate appears like culpable neglect. No one can form an idea of the number of vessels that go on shore during the course of a month; eighteen* went on shore during the period I was occupied there, (two months,) and many of them were very much injured. I am convinced that if proper measures were taken to protect the commercial interests of this great city, by blasting the rocks mentioned above, and docking it as proposed by Lieutenant Davis, not one vessel would be lost in five years.

I believe I have mentioned all the prominent dangers; the minor ones

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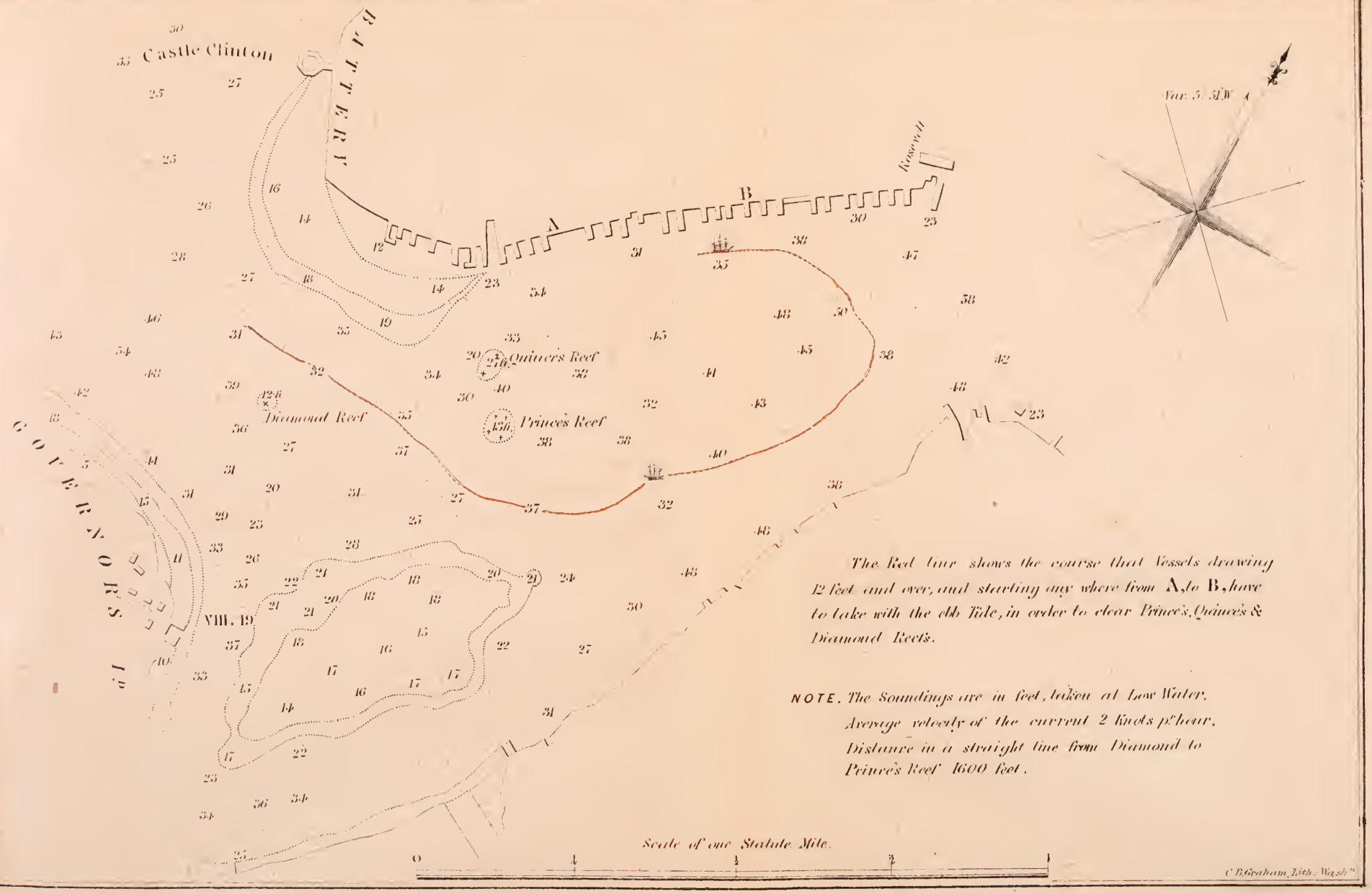
*Lieutenant Commanding Porter, in a letter to Eben Meriam, dated Washington City, November 17, 1848, says: "I have stated in my report that eighteen vessels went on shore during the time I was employed there. I beg leave to correct this, and say, that the number was nearer fifty."


Castle Clinton
BATTERY
Roosevelt
A
B
Var. 5. 3' W.
Quiver's Reef
Prince's Reef
Diamond Reef
COVERNORS I.
VIII. 19
The Red line shows the course that Vessels drawing 12 feet and over, and starting any where from A, to B, have to take with the ebb Tide, in order to clear Prince's, Quiver's & Diamond Reefs.
NOTE. The Soundings are in feet, taken at Low Water.
Average velocity of the current 2 Knots p.r hour.
Distance in a straight line from Diamond to Prince's Reef 1600 feet.
Scale of one Statute Mile.
0
1
2
3
C.B.Graham, Lith. Wash.n

will be apparent to those who make any examination of Hell Gate previous to undertaking the work. I have purposely omitted those points touched upon by Lieutenant Davis, as he has said all that is required.

I remain, very respectfully, your obedient servant,

DAVID D. PORTER,
Lieutenant Commanding.

A. D. BACHE, Esq.,
Supt. of Coast Survey, Washington city.

Letter from Lieutenant David D. Porter, U. S. Navy, to Eben Meriam, in relation to improvement of the channel of Hell Gate, and the removal of the rocks in the harbor of New York.

WASHINGTON CITY, *Nov.* 14, 1848.

SIR: I received your letter of November 9, enclosing me instructions from the Superintendent to afford you information relative to removing the obstructions in Hell Gate.

I made my report to the Superintendent nearly two weeks since, and presume he will furnish you a copy as soon as he receives it. I have therein stated the different rocks to be removed, but will furnish you with such extracts from it as will suit your purposes.

I will answer the question proposed to me in your letter as near as I can; but on some of them it is impossible to give you the information you require, as it will take some time for me to plot my work—a very minute operation, and one that requires a great deal of care. After the work is plotted, I could answer all your questions to your satisfaction.

Before I could give you the estimate for blowing up any of the rocks, it would be necessary to establish their size and shape, which can only be done by a series of levels a few feet apart. My work, I think, is minute enough for that purpose.

I have been told that persons are willing to contract for the removal of "Pot rock" for $6,000; at that rate, "Way's reef" would cost $4,000, "Frying-pan" $4,000, and the smaller obstacles mentioned in my report would cost very little, as they are more accessible.

About "Pot rock" and "Way's reef" the water is very deep; it goes from eight feet to four fathoms. If the rocks were blasted, the pieces would be thrown into such deep water that they would offer no further obstruction to navigation.

I would not recommend attempting the removal of the "Gridiron;" it should be built upon, and raised at least six feet above high water mark, and faced with spring fenders, like your New York ferries. This would make it quite safe, and would prevent any vessel from going on the rocks.

You ask me what the probable cost of improving the navigation of Hell Gate would be. In case anything of the kind is undertaken, I do not think the cost should be taken into consideration; it would be nothing in comparison to the benefits commerce would derive from it. All parts of the Union are more or less interested, and in this age of improvement it is a reproach to the country, that the principal thoroughfare of our greatest commercial city should be so neglected. Thousands of dollars are annu-

ally sacrificed there, when, with a small outlay, (compared with the advantages,) Hell Gate would be made one of the safest passages into New York. I think I speak within bounds when I calculate one hundred thousand dollars as the sum necessary to clear away every obstruction, and make Hell Gate safe for the largest size vessels.

"Diamond" and "Prince's" reefs are of small area, and could be removed, by blasting, for about $6,000. They are directly in the way of all vessels bound into the East river, and should have been removed long since. I did not examine the rock you alluded to, off Walnut street wharf, and cannot give you the information you require about it. It is laid down, however, on the Coast Survey charts, but will require a more minute examination previous to removing it.

While surveying in Hell Gate, I had every opportunity to notice the difficulties encountered both by steam and sailing vessels in passing through, and am certain that all danger would be removed if the principal rocks were blown up. The rocks cause all the eddies in which vessels become unmanageable and go on shore. I do not remember the exact number that went on shore while I was employed there, but in one day I saw no less than eight of these disasters—all owing to the eddies caused by "Pot rock." It may, at first sight, appear a difficult task to drill the above mentioned rocks under water; but with the improvement in the drill used in the rock stratas on the line of the Hudson and Albany railroad, it will be found a very practicable matter.

I regret that I am not able to furnish you at this moment the exact data you require, and it would be impossible for me to prepare it under three months. I think my report, in connexion with that of Lieutenant Davis, will afford you sufficient information to start upon, and shall be happy if, in the observations I have made, I shall be of any service in carrying out the proposed improvements.

I remain your obedient servant,

DAVID D. PORTER,
Lieutenant United States Navy.

EBEN MERIAM, Esq.

Letter from Eben Meriam to Lieutenant Commanding David D. Porter, making specific inquiries in relation to Hell Gate reefs and rocks in the harbor of New York.

NEW YORK, *November* 9, 1848.

DEAR SIR: I herewith hand you the copy of a letter I received yesterday from A. D. Bache, esq., Superintendent of Coast Survey.

The information referred to in this letter which I am desirous of obtaining first, is, as to what time you will probably make your report to the Superintendent of the Coast Survey.

In case your report reaches Washington before the 25th of this month, it will be in time for my purposes; but if it is probable that it will be delayed to a later day than the 25th, then, and in that case, I should be glad to be informed of the probable time it will be made; and in the mean time, I wish to inquire as follows:

1st. Your opinion of the probable expense of blasting "Pot rock," 30 feet

below low tide, and what effect you suppose such removal of the upper part of this rock will have upon the navigation of Hell Gate?

2d. The expense of removing the reef known as "Way's reef," and if the water around that reef is sufficiently deep to allow of its being blasted so that large vessels can pass over it with safety?

3d. The expense of removing the reef known as the "Gridiron?"

4th. I shall be glad to be informed of the depth of the soundings around the rocks which you have examined, which you consider endanger the navigation of Hell Gate.

5th. The probable expense of improving the navigation of Hell Gate to make it safe for steamers and sail vessels, and such as to enable the largest of our line of battle-ships to pass through with safety in case of war?

6th. The situation of the rocks in the harbor of New York known as "Prince's reef," and "Diamond reef," and the probable expense of removing these rocks, and if the removal can probably be accomplished by blasting?

When I saw you at Hell Gate, at the time you were engaged in making the survey in the United States schooner Petrel, I did not hear you make any remarks as to a rock in East river near Walnut street ferry. I wish now to inquire if that rock was examined by you, and what you found its situation to be as to location, depth of water upon it at low tide, and your opinion of the probable expense of removing it, and whether this can be accomplished by blasting?

I mentioned to you that a new drill had been invented for drilling rocks, which greatly expedites the labor, and that I had seen a model of the drill, and a machine to work it, at Lockpit, when examining the deep borings of the salt well at that locality. Since the last interview I had with you I have called on James Boorman, esq., and made inquiry as to the use of the new drill in the rock stratas on the line of the Hudson and Albany railroad. Mr. Boorman informs me that five times the work can be done with the new drill that can be performed with the old one in the same time. As much drilling will be required to be done in removing the rocks, I considered this information would be useful to you.

Your opportunities of seeing the difficulties encountered by steam as well as sail vessels in passing through Hell Gate, while there with the United States schooner Petrel, making soundings, enable you to form a correct opinion as to the danger which these rocks there offer to safe navigation. I think I understood you, or some of the officers of the Petrel, to say that upwards of fifty vessels had been on shore there during a period of one month, and that seven of those disasters occurred in one day. Am I right in my recollection of your remarks in this particular?

I shall be glad to be informed of any matter touching the premises that you may deem important to communicate, and of such suggestions as to the best mode of rendering this navigation safe that you may be pleased to make.

With respect, your obedient servant,

EBEN MERIAM.

DAVID D. PORTER, Esq.,
Lieut. commanding U. S. schooner Petrel.

Copy of a letter from A. D. Bache, Esq., Superintendent of Coast Survey, to Eben Meriam, referred to in the preceding letter.

OFFICE OF SUPERINTENDENT OF COAST SURVEY,
November 2, 1848.

SIR: In compliance with your request, I herewith send you a copy of Lieutenant Commanding Porter's report on Buttermilk channel, and have requested him to furnish you such information as you may desire for immediate use, in anticipation of his report, not yet received, on the soundings in Hell Gate and its vicinity. Your application being addressed to the Secretary of the Navy instead of to the Secretary of the Treasury, or to the Superintendent of the coast survey, has produced some delay. I hope, however, you may receive in time what you desire for present use, and will forward to you Lieutenant Commanding Porter's report when received, and, if desired, a tracing of his new soundings.

Yours respectfully,

A. D. BACHE,
Superintendent of U. S. Coast Survey.

EBEN MERIAM, Esq., *New York.*

Letter from Hon. R. J. Walker, Secretary of the Treasury, to Eben Meriam.

TREASURY DEPARTMENT,
November 10, 1848.

SIR: In reference to the request made in your letter without date, just received, to have the president of the New York Chamber of Commerce furnished from the coast survey archives with copies of the survey and soundings at Hell Gate, recently made by Lieutenant Porter, assistant in said survey, I have to inform you, that on the receipt of your former letter, dated the 20th ultimo, the Superintendent of Coast Survey, Professor A. D. Bache, was authorized and instructed to furnish copies of the survey and soundings, as requested, so soon as they could be prepared. That officer is now on duty in North Carolina, and will no doubt give immediate attention to the subject on his return to Washington, where he is shortly expected.

Yours, respectfully,

R. J. WALKER,
Secretary of the Treasury.

EBEN MERIAM, Esq., *New York.*

Letter from Professor A. D. Bache, Superintendent of the Coast Survey, to Eben Meriam.

CAMP NEAR MIDDLE OF BASE, BODIE'S ISLAND, N. C.,
November 11, 1848.

SIR: On the — instant, I had the honor to inform you that Lieutenant Commanding Porter, assistant in the coast survey, had been author-

ized and directed to furnish such information as might be desired by the Chamber of Commerce of New York, in reference to the obstructions at Hell Gate, in anticipation of his regular report. I have just received the report, of which a copy is annexed, from Lieutenant Commanding Porter, and hasten to transmit it to you. It is full of valuable suggestions. You will see that subsequent minute examinations of Lieutenant Commanding Porter confirm the results of Lieutenant Commanding Davis.

Yours, respectfully,

A. D. BACHE,
Superintendent of U. S. Coast Survey.

EBEN MERIAM, Esq., *New York.*

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